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## ROUND TABLE DISCUSSION

This department of the *TEACHER* is conducted by Eugene R. Smith, The Park School, Baltimore, Md. All correspondence should be addressed to Mr. Smith. Readers are invited to submit questions or answers in the field of their special interests, or to discuss briefly any topics of interest, whether suggested by articles in the *TEACHER* or by personal experience. The editor in charge will refer questions to persons specially qualified to answer them.

Q. 1. I note that the report of the National Committee attaches considerable importance to certain elementary topics in statistics. Where can a teacher who has not had the advantage of a course in this subject obtain information regarding the fundamental principles of the science of statistics?

J. H. A.

Of the books on statistics the writer prefers to recommend "Statistical Methods Applied to Education" by H. O. Rugg, Houghton Mifflin Company, 1917. This book presupposes very little mathematical training. The principles are discussed and illustrated at much greater length than in the average book. For a most concise statement without any special field of application, one can read with profit, "The Elements of Statistical Method," by W. I. King, The Macmillan Company. A slightly larger book in which not so many formulæ are assumed and in which the calculus is not employed, is "Elements of Statistics," by A. L. Bowley, Charles Scribner's Sons.

Bowley is to be preferred to King for those with mathematical training.

[*Note:* Can some one suggest other books dealing with statistical methods that can be taught to children?]

Q. 3. I note that the National Committee has recommended that a rather large amount of intuitive geometry, considerable algebra and some numerical trigonometry, be given before demonstrative geometry. Assuming that this is done, will there be any justification for correlation in the demonstrative geometry?

H. B. K.

When a large amount of intuitive geometry and considerable algebra precedes demonstrative geometry, it may be assumed that the pupil knows much about the informational material usually offered in plane geometry and that he has had considerable training in drawing correct inferences from given or assumed conditions. A mere repetition of these experiences would be a waste of time, and it should, therefore, not be necessary to spend a full year on the study of plane geometry. For a year's work we may add algebra, or solid geometry to the work which is purely demonstrative geometry. Such a course would give ample opportunity for correlation.

However, if a teacher prefers to give a brief course in intensive study of plane geometry, where training in reasoning is one of the principal aims, correlation will be justified wherever it helps the pupil to gain better understanding and mastery. For example, the use of algebraic symbols greatly simplifies some of the proofs. The use of the equation in theorems expressing functional relations proves exceedingly helpful. This applies especially to theorems on angles and arcs; sides of right, acute, and obtuse angled triangles; segments of chords and secants; medians and sides; radii of inscribed and circumscribed circles and the sides of regular polygons; proportions in similar figures; segments of transversals cut by parallel lines.

The applications of these theorems lead to equations of the first and second degree, involve the fundamental algebraic operations and therefore give wide opportunity for correlating geometry with algebra.

Furthermore, the pupil's knowledge of trigonometry enables him to simplify a number of proofs. For example, the relations between the side of a regular polygon and the radii of the inscribed and circumscribed circles are easily established by use of the trigonometric functions.

In all formulas every possible opportunity should be used for arithmetical computation.

All these experiences must lead the pupil to a better understanding than can be attained by specializing on logical geometry to the exclusion of all related material. The question of the writer should, therefore, be answered in the affirmative.

E. R. BRESLICH.

THE SCHOOL OF EDUCATION,  
UNIVERSITY OF CHICAGO.

Q. 5. What are the important qualifications to be considered in choosing the head of a department of mathematics?

"If you were in a position to select the head of a mathematics department from a group of mathematics teachers, what qualifications would you look for? Will you write them down in order of importance, the most important first?"

These questions were asked of our nine high school teachers of mathematics. Below you will find their answers. The numbers after a certain qualification are the ranks the teachers gave to it.

Knowledge of the subject—based on scholarship, degrees, years of experience, etc. 1, 2, 4, 2, 1, 1, 1,

Success as a teacher—1, 3, 4, 3, 1.

Executive ability—2, 4, 3, 1.

—Be able to recognize good teaching in others and to be able to commend without flattering. Be able to recognize poor teaching in others and to be able to criticise without offending. Efficiency as a teacher sufficient to inspire fellow teachers and to create a high standard of work required of students.

Decisive force—1, 5, 3.

—Manifested toward pupils and those in authority. Sufficient stamina to support teachers in any justifiable cause. He should have sufficient aggressiveness to stand out for the rights of the department.

Standing in the community—2—moral, social, good citizenship.

Leadership—1.

—He must be awake to the spirit of the times and keep himself informed as to what other schools are doing.

Ability to solve pedagogical problems—4, 3.

Character and personality—1, 2, 1.

Tact—5, 2.

True dignity—2.

Sympathy—6.

Interest—3.

Magnanimity—2.

From the answers we notice that the majority place scholarship first—scholarship receiving four firsts. Successful teaching received two firsts and several of the others one each. The one who gave scholarship 4th place gave executive ability first, and good teaching third. The one who gave character and personality first gave scholarship second and the one who gave leadership first gave scholarship second.

No definite conclusions can be drawn from such a few answers but they are valuable as suggestive of what qualifications each teacher might look toward.

FRED H. CRONINGER.

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Having met this problem in practice I can define rather accurately my own way of choosing.

In the first place no one could be considered unless he or she was of good character and had adequate training and successful experience along mathematical lines. That fact is so evident that it does not enter into the real problem, which is to choose the best one from those who have these fundamental qualifications.

The most important attribute for which to look seems to me to be the ability to win confidence and cooperation. This is all important, for without it one cannot get real team work from his teachers or inspire his pupils.

I should also demand open-mindedness. The man or woman who cannot see the good in others ways of doing good things, who is not always alert for better material, texts and methods, will never make a real success. If in addition, there is enough initiative and originality to start new things for himself, he belongs to the elect.

One good criterion by which to judge one aspiring to promotion is this: Is he such a success where he is that he has outgrown the job? The one who has "burst the seams" of the suit he is wearing may fairly demand a larger one.

One could not meet the requirements I have outlined without having most of the qualities mentioned in the preceding answer, but the mind of the one choosing should, I think, be centered on a few inclusive characteristics rather than on too many details.

E. R. S.

(How do other teachers or executives feel about this?—  
EDITOR.)

PROBLEMS FOR DISCUSSION.

Q. 6. I should like to know whether any Junior High Schools have introduced the Slide rule? B. B.

Q. 7. I should like to know whether the readers of the TEACHER find historical notes of historical material in general, of any real value for their pupils? R. P.

Q. 8. How should supervised study be administered in the teaching of junior high-school mathematics? P. D. E.

Q. 9. Our Board of Education is interested in finding out the essential qualifications for teachers of Junior High School Mathematics. Has any report been made on this? If not, what should be recommended?

The Editor urges readers of the TEACHER to join in the discussion of the points raised and to contribute questions for discussion.